

# EXHIBIT J



US008902871B2

(12) **United States Patent**  
**Mukai et al.**

(10) **Patent No.:** **US 8,902,871 B2**

(45) **Date of Patent:** **\*Dec. 2, 2014**

(54) **WIRELESS BASE STATION AND WIRELESS COMMUNICATION TERMINAL AND WIRELESS COMMUNICATION SYSTEM**

USPC ..... 370/338, 329; 455/456.5, 456.6  
See application file for complete search history.

(75) Inventors: **Tsutomu Mukai**, Osaka (JP); **Hitoshi Takai**, Osaka (JP)

(73) Assignee: **Panasonic Corporation**, Osaka (JP)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 156 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/607,931**

(22) Filed: **Sep. 10, 2012**

(65) **Prior Publication Data**

US 2012/0331161 A1 Dec. 27, 2012

**Related U.S. Application Data**

(62) Division of application No. 12/493,364, filed on Jun. 29, 2009, now Pat. No. 8,284,744.

(30) **Foreign Application Priority Data**

Jun. 30, 2008 (JP) ..... 2008-171583

(51) **Int. Cl.**

**H04W 4/00** (2009.01)

**H04L 29/06** (2006.01)

**H04W 12/08** (2009.01)

**H04W 88/02** (2009.01)

(52) **U.S. Cl.**

CPC ..... **H04W 12/08** (2013.01); **H04L 63/105** (2013.01); **H04W 88/02** (2013.01)

USPC ..... **370/338**

(58) **Field of Classification Search**

CPC ..... H04W 74/002-74/008

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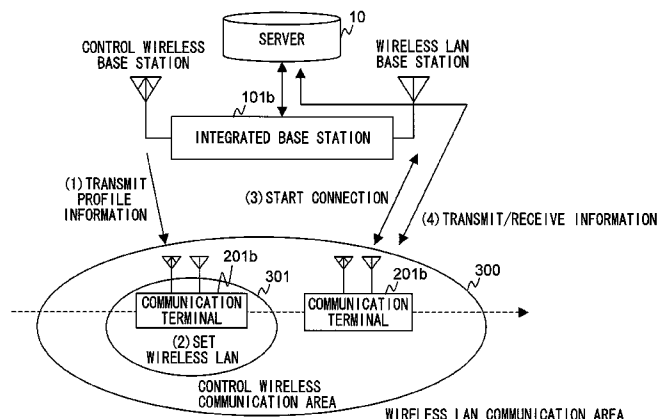
Primary Examiner — Albert T Chou

(74) Attorney, Agent, or Firm — Wenderoth, Lind & Ponack, L.L.P.

(57) **ABSTRACT**

Provided is a wireless communication system transmitting information to a communication terminal moving through a spot wireless area. In an integrated base station, an external information communication section controls communication with a server. A contents memory section stores contents received from the server. A wireless LAN communication section communicates with the communication terminal. A control section establishes connection with the communication terminal using a first connection not requiring an authentication procedure for connection with the communication terminal, or using a second connection requiring the authentication procedure for connection with the communication terminal. An access control (restriction) section permits access from the communication terminal to the contents memory section and prohibits access to the server when a type of connection with the communication terminal is the first connection, and permits access from the communication terminal to the contents memory section and to the server in the case of the second connection.

**17 Claims, 24 Drawing Sheets**





US009357441B2

(12) **United States Patent**  
**Mukai et al.**

(10) **Patent No.:** **US 9,357,441 B2**

(45) **Date of Patent:** **\*May 31, 2016**

(54) **WIRELESS BASE STATION AND WIRELESS COMMUNICATION TERMINAL AND WIRELESS COMMUNICATION SYSTEM**

(71) Applicant: **Panasonic Intellectual Property Management Co., Ltd.**, Osaka (JP)

(72) Inventors: **Tsutomu Mukai**, Osaka (JP); **Hitoshi Takai**, Osaka (JP)

(73) Assignee: **PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD.**, Osaka (JP)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/747,164**

(22) Filed: **Jun. 23, 2015**

(65) **Prior Publication Data**

US 2015/0296419 A1 Oct. 15, 2015

**Related U.S. Application Data**

(60) Continuation of application No. 14/525,519, filed on Oct. 28, 2014, now Pat. No. 9,100,939, which is a continuation of application No. 13/607,931, filed on Sep. 10, 2012, now Pat. No. 8,902,871, which is a division of application No. 12/493,364, filed on Jun. 29, 2009, now Pat. No. 8,284,744.

(30) **Foreign Application Priority Data**

Jun. 30, 2008 (JP) ..... 2008-171583

(51) **Int. Cl.**

**H04W 36/00** (2009.01)

**H04L 29/06** (2006.01)

(Continued)

(52) **U.S. Cl.**

CPC ..... **H04W 36/0016** (2013.01); **H04L 63/105** (2013.01); **H04W 12/06** (2013.01);

(Continued)

(58) **Field of Classification Search**

CPC .... H04L 63/105; H04W 12/08; H04W 76/02; H04W 12/06; H04W 88/02

See application file for complete search history.

(56) **References Cited**

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JP 2006-287767 10/2006

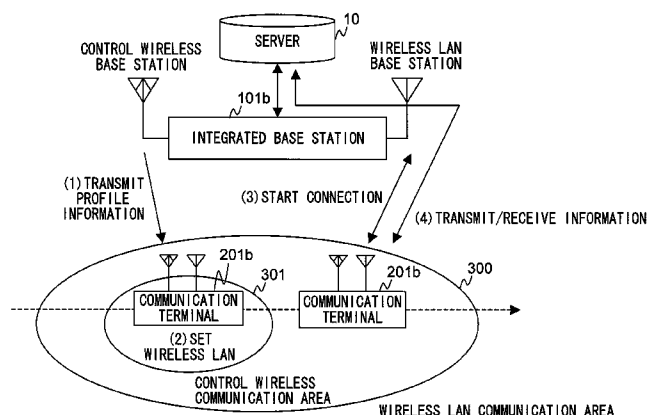
*Primary Examiner* — Albert T Chou

(74) *Attorney, Agent, or Firm* — Wenderoth, Lind & Ponack, L.L.P.

(57) **ABSTRACT**

Provided is a wireless communication system transmitting information to a communication terminal moving through a spot wireless area. In an integrated base station, an external information communication section controls communication with a server. A contents memory section stores contents received from the server. A wireless LAN communication section communicates with the communication terminal. A control section establishes connection with the communication terminal using a first connection not requiring an authentication procedure for connection with the communication terminal, or using a second connection requiring the authentication procedure for connection with the communication terminal. An access control (restriction) section permits access from the communication terminal to the contents memory section and prohibits access to the server when a type of connection with the communication terminal is the first connection, and permits access from the communication terminal to the contents memory section and to the server in the case of the second connection.

**26 Claims, 24 Drawing Sheets**





US009620282B2

(12) **United States Patent**  
**Asanuma et al.**

(10) **Patent No.:** **US 9,620,282 B2**

(45) **Date of Patent:** **\*Apr. 11, 2017**

(54) **NONCONTACT CONNECTOR APPARATUS  
AND SYSTEM USING INDUCTIVE  
COUPLING BETWEEN COILS**

(71) Applicant: **Panasonic Intellectual Property  
Management Co., Ltd., Osaka (JP)**

(72) Inventors: **Kenichi Asanuma, Kyoto (JP); Atsushi  
Yamamoto, Kyoto (JP); Tsutomu  
Sakata, Osaka (JP)**

(73) Assignee: **PANASONIC INTELLECTUAL  
PROPERTY MANAGEMENT CO.,  
LTD., Osaka (JP)**

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 884 days.

This patent is subject to a terminal dis-  
claimer.

(21) Appl. No.: **13/983,617**

(22) PCT Filed: **Nov. 14, 2012**

(86) PCT No.: **PCT/JP2012/007304**

§ 371 (c)(1),

(2) Date: **Aug. 5, 2013**

(87) PCT Pub. No.: **WO2013/008640**

PCT Pub. Date: **Jun. 20, 2013**

(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

Dec. 14, 2011 (JP) ..... 2011-272904

(51) **Int. Cl.**

**H01F 38/14** (2006.01)

**H02J 17/00** (2006.01)

**H04B 5/00** (2006.01)

(52) **U.S. Cl.**

CPC ..... **H01F 38/14** (2013.01); **H02J 17/00**  
(2013.01); **H04B 5/0037** (2013.01); **H04B**  
**5/0075** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

(56) **References Cited**

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*Primary Examiner* — Jared Fureman

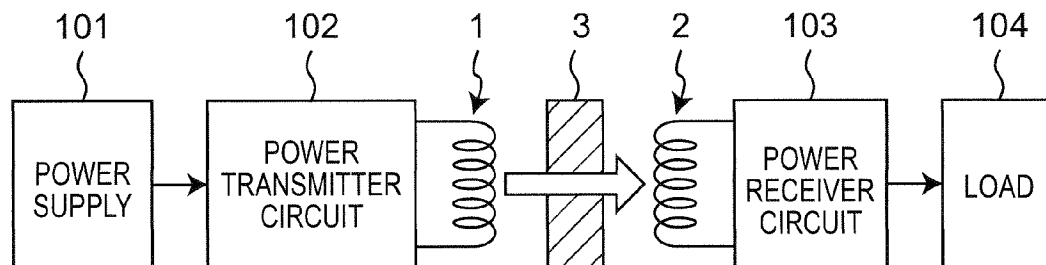
*Assistant Examiner* — Joel Barnett

(74) *Attorney, Agent, or Firm* — Wenderoth, Lind &  
Ponack, L.L.P.

(57) **ABSTRACT**

A power transfer system is provided with a transmission coil  
and a reception coil respectively provided along a first  
surface and a second surface that face each other proximal  
to each other. The transmission coil and reception coil are  
provided proximally to be electromagnetically coupled to  
each other. The winding wire of the transmission coil is  
wound on the first surface, and the winding wire of the  
reception coil is wound on the second surface. The power  
transfer system is provided with a magnetic body provided

(Continued)





US010039144B2

(12) **United States Patent**  
**Mukai et al.**

(10) **Patent No.:** **US 10,039,144 B2**

(45) **Date of Patent:** **\*Jul. 31, 2018**

(54) **WIRELESS BASE STATION AND WIRELESS COMMUNICATION TERMINAL AND WIRELESS COMMUNICATION SYSTEM**

(58) **Field of Classification Search**

CPC ..... H04L 63/105  
See application file for complete search history.

(71) Applicant: **Panasonic Intellectual Property Management Co., Ltd., Osaka (JP)**

(56) **References Cited**

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(72) Inventors: **Tsutomu Mukai, Osaka (JP); Hitoshi Takai, Osaka (JP)**

8,284,744 B2 \* 10/2012 Mukai ..... H04L 63/105  
370/338  
8,902,871 B2 \* 12/2014 Mukai ..... H04L 63/105  
370/338

(73) Assignee: **PANASONIC INTELLECTUAL PROPERTY MANAGEMENT CO., LTD., Osaka (JP)**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 161 days.

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This patent is subject to a terminal disclaimer.

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JP 2004-048395 2/2004  
JP 2006-287767 10/2006

Primary Examiner — Albert T Chou

(21) Appl. No.: **15/142,258**

(74) Attorney, Agent, or Firm — Wenderoth, Lind & Ponack, L.L.P.

(22) Filed: **Apr. 29, 2016**

(57) **ABSTRACT**

(65) **Prior Publication Data**

US 2016/0249393 A1 Aug. 25, 2016

**Related U.S. Application Data**

(60) Continuation of application No. 14/747,164, filed on Jun. 23, 2015, now Pat. No. 9,357,441, which is a (Continued)

(30) **Foreign Application Priority Data**

Jun. 30, 2008 (JP) ..... 2008-171583

(51) **Int. Cl.**

**H04W 76/10** (2018.01)

**H04W 4/80** (2018.01)

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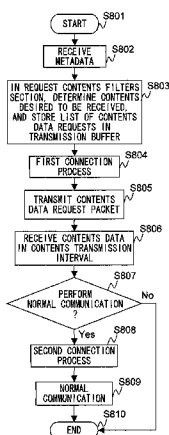
(52) **U.S. Cl.**

CPC ..... **H04W 76/10** (2018.02); **H04L 61/6081** (2013.01); **H04L 63/105** (2013.01);

(Continued)

Provided is a wireless communication system transmitting information to a communication terminal moving through a spot wireless area. In an integrated base station, an external information communication section controls communication with a server. A contents memory section stores contents received from the server. A wireless LAN communication section communicates with the communication terminal. A control section establishes connection with the communication terminal using a first connection not requiring an authentication procedure for connection with the communication terminal, or using a second connection requiring the authentication procedure for connection with the communication terminal. An access control (restriction) section permits access from the communication terminal to the contents memory section and prohibits access to the server when a type of connection with the communication terminal is the first connection, and permits access from the communication terminal to the contents memory section and to the server in the case of the second connection.

**12 Claims, 24 Drawing Sheets**



US010468913B2

**(12) United States Patent****Hidaka et al.****(10) Patent No.: US 10,468,913 B2****(45) Date of Patent: Nov. 5, 2019****(54) ELECTRONIC DEVICE INCLUDING  
NON-CONTACT CHARGING MODULE****(71) Applicant: Sovereign Peak Ventures, LLC, Plano,  
TX (US)****(72) Inventors: Akio Hidaka, Fukuoka (JP); Takumi  
Naruse, Miyazaki (JP); Munenori  
Fujimura, Fukuoka (JP); Kenichiro  
Tabata, Fukuoka (JP); Tokuji Nishino,  
Fukuoka (JP)****(73) Assignee: Sovereign Peak Ventures, LLC, Plano,  
TX (US)****(\*) Notice:** Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.**(21) Appl. No.: 16/055,852****(22) Filed: Aug. 6, 2018****(65) Prior Publication Data**

US 2018/0375378 A1 Dec. 27, 2018

**Related U.S. Application Data****(63)** Continuation of application No. 15/883,773, filed on  
Jan. 30, 2018, now Pat. No. 10,044,225, which is a  
(Continued)**(30) Foreign Application Priority Data**

Jun. 14, 2011 (JP) ..... 2011-131948

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(Continued)

**(51) Int. Cl.****H02J 7/00** (2006.01)**H02J 50/10** (2016.01)

(Continued)

**(52) U.S. Cl.**CPC ..... **H02J 50/10** (2016.02); **H01F 38/14**  
(2013.01); **H02J 7/025** (2013.01); **H02J 50/70**  
(2016.02);

(Continued)

**(58) Field of Classification Search**CPC ..... H02J 7/025; H01F 38/14; Y02T 90/122;  
B60L 11/182; Y02E 60/12

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*Primary Examiner - Arun C Williams***(74) Attorney, Agent, or Firm - Ascenda Law Group, PC****(57) ABSTRACT**This communication apparatus makes it possible to have a  
non-contact charging module and a sheet antenna coexist,  
even in the case where there the non-contact charging  
module and the sheet antenna in the communication appa-  
ratus. The apparatus is provided with: a housing; a second-  
ary-side non-contact charging module, which is housed in  
the housing, receives power by means of electromagnetic  
induction, and has a first coil having a conducting wire  
wound thereon, and a first magnetic sheet facing the first  
coil; and an NFC antenna, which is housed in the housing,

(Continued)

